

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Assistant Commissioner for Patents
 United States Patent and Trademark
 Office
 Box PCT
 Washington, D.C.20231
 ETATS-UNIS D'AMERIQUE

in its capacity as elected Office

Date of mailing (day/month/year)
 16 August 2000 (16.08.00)

International application No.
 PCT/EP99/10187

Applicant's or agent's file reference
 JIM/G14310

International filing date (day/month/year)
 17 December 1999 (17.12.99)

Priority date (day/month/year)
 18 December 1998 (18.12.98)

Applicant

KOKSBANG, Rene et al

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:
 18 July 2000 (18.07.00)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was
☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO
 34, chemin des Colombettes
 1211 Geneva 20, Switzerland

Authorized officer

S. Mafla

Facsimile No.: (41 22) 740.14.35

Telephone No.: (41 22) 338.83.38

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PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)



Applicant's or agent's file reference JIM/LJ/G14310WO	FOR FURTHER ACTION		See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/EP99/10187	International filing date (day/month/year) 17/12/1999	Priority date (day/month/year) 18/12/1998	
International Patent Classification (IPC) or national classification and IPC H01M10/40			
Applicant DANIONICS A/S et al.			

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 4 sheets, including this cover sheet.
 - ☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 18/07/2000	Date of completion of this report 20.09.2000
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Hammerstein, G Telephone No. +49 89 2399 8175 

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/EP99/10187

I. Basis of the report

1. This report has been drawn on the basis of (*substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.*):

Description, pages:

1-19 as originally filed

Claims, No.:

1-24 as originally filed

Drawings, sheets:

1/4-4/4 as originally filed

2. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

4. Additional observations, if necessary:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/EP99/10187

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	1-24
	No:	Claims	
Inventive step (IS)	Yes:	Claims	1-24
	No:	Claims	
Industrial applicability (IA)	Yes:	Claims	1-24
	No:	Claims	

2. Citations and explanations

see separate sheet

Re Item V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

The present application is directed towards an electrochemical cell (a battery, a double-layer capacitor) comprising a non-aqueous electrolyte and a mixture of at least one salt of oxalic acid and at least one salt of carbonic acid as acid scavenging additive.

The prior art documents suggest the addition of either of carbonate (e.g. US-A-5707760) or oxalate in order to eliminate HF or other acid in the non-aqueous electrolyte. The distinguishing feature of claim 1 in view of the closest prior art represented by US'760 is the combination of a carbonate and an oxalate. The use of a mixture of carbonate and oxalate is not suggested by any of the available documents. It follows from the experiments of the application that this combination provides a synergistic effect resulting in scavenging of HF while only a small amount of the scavenger decomposes under formation of gas.

It follows therefrom that independent claim 1 as well as claims 2-24 dependent therefrom fulfill the requirements of Article 33(1) PCT for novelty and inventive step.

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference JIM/G14310	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/EP 99/ 10187	International filing date (day/month/year) 17/12/1999	(Earliest) Priority Date (day/month/year) 18/12/1998
Applicant DANIONICS A/S		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of Invention is lacking** (see Box II).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☐ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

☐

None of the figures.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 99/10187

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 H01M10/40 H01G9/02 H01M2/02

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H01M H01G

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

PAJ, EPO-Internal, CHEM ABS Data, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	PATENT ABSTRACTS OF JAPAN vol. 1999, no. 01, 29 January 1999 (1999-01-29) -& JP 10 284053 A (MATSUSHITA ELECTRIC IND CO LTD), 23 October 1998 (1998-10-23) abstract ---	1-3,5,6, 8,12,13
A	EP 0 883 200 A (MATSUSHITA ELECTRIC IND CO LTD) 9 December 1998 (1998-12-09) page 4, line 7-40 page 13, line 16-51 page 18, line 47 -page 19, line 41; claims 1-21 --- -/--	1,2,5,6, 10-24

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

° Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

17 August 2000

Date of mailing of the international search report

23/08/2000

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

De Vos, L

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	PATENT ABSTRACTS OF JAPAN vol. 098, no. 002, 30 January 1998 (1998-01-30) -& JP 09 283181 A (MATSUSHITA ELECTRIC IND CO LTD), 31 October 1997 (1997-10-31) abstract ---	2,4
A	CHEMICAL ABSTRACTS, vol. 129, no. 5, 3 August 1998 (1998-08-03) Columbus, Ohio, US; abstract no. 56526, NAKAI KENJI: "safety organic-electrolyte secondary batteries" XP002095856 abstract & JP 10 125327 A (SHIN-KOBE ELECTRIC MACHINERY CO) 15 May 1998 (1998-05-15) ---	1,2,4,5, 12
A	PATENT ABSTRACTS OF JAPAN vol. 014, no. 241 (E-0931), 22 May 1990 (1990-05-22) -& JP 02 066920 A (ELNA CO LTD), 7 March 1990 (1990-03-07) abstract ---	1,9
A	PATENT ABSTRACTS OF JAPAN vol. 015, no. 125 (E-1050), 27 March 1991 (1991-03-27) -& JP 03 011718 A (MATSUSHITA ELECTRIC IND CO LTD), 21 January 1991 (1991-01-21) abstract ---	1,2,9, 21,22
A	PATENT ABSTRACTS OF JAPAN vol. 1997, no. 11, 28 November 1997 (1997-11-28) & JP 09 180758 A (FUJI PHOTO FILM CO LTD), 11 July 1997 (1997-07-11) cited in the application abstract ---	1-3,5
A	US 5 707 760 A (BARKER JEREMY ET AL) 13 January 1998 (1998-01-13) cited in the application column 2, line 61 -column 3, line 46; claims 1-27 ---	1,5,6
A	WO 95 13629 A (VALENCE TECHNOLOGY INC ;CHALONER GILL BENJAMIN (US)) 18 May 1995 (1995-05-18) cited in the application page 19, line 1 -page 22, line 25 -----	14

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 99/10187

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
JP 10284053	A	23-10-1998	NONE	
EP 0883200	A	09-12-1998	CN 1202019 A JP 11191417 A	16-12-1998 13-07-1999
JP 09283181	A	31-10-1997	NONE	
JP 10125327	A	15-05-1998	NONE	
JP 02066920	A	07-03-1990	JP 7048456 B	24-05-1995
JP 03011718	A	21-01-1991	JP 2910056 B	23-06-1999
JP 09180758	A	11-07-1997	NONE	
US 5707760	A	13-01-1998	NONE	
WO 9513629	A	18-05-1995	US 5445856 A AU 1173295 A	29-08-1995 29-05-1995

ANHANG

ANNEX

ANNEXE

zum internationalen Recherchen-
bericht über die internationale
Patentanmeldung Nr.

to the International Search
Report to the International Patent
Application No.

au rapport de recherche inter-
national relatif à la demande de brevet
international n°

PCT/US 94/12847 SAE 100635

In diesem Anhang sind die Mitglieder
der Patentfamilien der im obenge-
nannten internationalen Recherchenbericht
angeführten Patentdokumente angegeben.
Diese Angaben dienen nur zur Unter-
richtung und erfolgen ohne Gewähr.

This Annex lists the patent family
members relating to the patent documents
cited in the above-mentioned inter-
national search report. The Office is
in no way liable for these particulars
which are given merely for the purpose
of information.

La présente annexe indique les
membres de la famille de brevets
relatifs aux documents de brevets cités
dans le rapport de recherche inter-
national visée ci-dessus. Les renseigne-
ments fournis sont donnés à titre indica-
tif et n'engagent pas la responsabilité
de l'Office.

Im Recherchenbericht angeführtes Patentdokument Patent document cited in search report Document de brevet cité dans le rapport de recherche	Datum der Veröffentlichung Publication date Date de publication	Mitglied(er) der Patentfamilie Patent family member(s) Membre(s) de la famille de brevets	Datum der Veröffentlichung Publication date Date de publication
US A 4615926	07-10-88	AU A1 45133785 CA A1 1253426 DK A0 3312/85 DK A 3312/85 EP A2 175451 GR A 851789 JP A2 61083039 US A 4704314 US A 4700531	23-01-86 02-05-89 19-07-85 21-01-86 26-03-86 26-11-85 26-04-86 03-11-87 20-10-87
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US A 4679190	07-11-89	AT E 91571 CA A1 1307817 DE C0 68907537 DE T2 68907537 EP A2 357399 EP A3 357399 EP B1 357399 ES T3 2044129 JP A2 2168577	15-07-93 22-09-92 19-08-93 23-12-93 07-03-90 31-07-91 14-07-93 01-01-94 28-06-90
US A 4935317	19-06-90	CA AA 2018444 EP A2 404563 EP A3 404563 JP A2 3129665	21-12-90 27-12-90 31-07-91 03-06-91